AN ANALYSIS OF A MINORITY SUMMER ENRICHMENT PROGRAM'S CAPACITY TO EXEMPT MINORITY STUDENTS FROM FRESHMAN YEAR REMEDIATION

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ABSTRACT

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AN ANALYSIS OF A MINORITY SUMMER ENRICHMENT PROGRAM'S CAPACITY TO EXEMPT MINORITY STUDENTS FROM FRESHMAN YEAR REMEDIATION

Advisor: Dr. Eugene Herrington

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The purpose of this study was to determine the effectiveness of a specially designed summer enrichment program to assist African-American students to make a positive transition from high school to college at a predominantly white institution. Success was measured in terms of the number of students who exempted remediation in the areas of English, reading and mathematics on the University System of Georgia's official placement examination, the Collegiate Placement Examination (CPE). The Scholastic Aptitude Test (SAT) was used as the placement tool for the enrichment program. Since the Collegiate Placement Examination (CPE) was the final criteria used to place or exempt students for remediation in the University System of Georgia upon admission, it was the only instrument analyzed for this study.

The Collegiate Placement Examination (CPE) was administered as a Pre-test at the beginning of the

enrichment program and as a post-test at the end of the program. The test was given to measure students success at exempting remediation in the fall quarter following participation in the summer enrichment program.

Gender comparisons were not as conclusive since only eight of the twenty six participants in the study were male. The correlational analyses clearly showed differences in the pre- and post-tests for all participants.

Findings suggest that there was one noticeable difference in the performance of males as compared to females, in that males made significant gains in the area of reading. This may be significant because in similar studies males are most often reported as not doing as well as females.

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CHAPTER ONE

INTRODUCTION

Liberal enrollment policies have continued to increase the numbers of students on college campuses throughout the United States including those from other countries. The liberal commitments of colleges and universities to offer higher education for almost any student who wants to attend college have, simultaneously, attracted students who may not have the educational background and social awareness needed to begin or complete the initial college application process.

The academic preparations for many of these college students are inadequate and lacking, and their financial, social, and family resources are usually minimal. These applicants are considered to be high-risk students by colleges and universities. The high-risk student is defined as one who does not possess sufficient academic preparation for college level work.[1] This lack of academic preparation, according to many authorities, could be considered the single most consistent and significant factor in predicting dropout rates.[2]

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[1]C. K. Miller, Success Comparison of High-Risk Students in Two Year College Transfer Curricula (Washington, D.C.: Association for the Study of Higher Education, 1982), Dialog, ERIC, ED 225624.

[2]A. W. Astin, Preventing Students from Dropping Out (San Francisco: Jossey-Bass, 1975), 10.

Research indicates that factors related to poor academic performance are complex, but the conclusions are almost always the same, namely, poor academic preparation and poor integration into the college environment lead to poor academic performance; and, most often, to withdrawal altogether.[3]

Many high school students, with limited skills entering public colleges and universities, are those who are most likely not to make it to graduation unless some remediation is provided. According to one writer, students leave college most often in the first year. With this in mind, the first year's experience becomes critical to the student and the institution that wants to retain him. Most college and university systems, nation-wide, have some sort of remedial programs called developmental programs for their high risk students.[4]

All the states that have developmental programs and most of the private colleges and universities seem to agree that the need for these programs continues to persist. These programs are not designed to be comprehensive enough to meet the needs of certain minority high-risk students. One group of high-risk minority students is

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[3]E. B. Nunez-Wormack, B. Astone, and I. Smodlaka, "Preparing Freshman for College: A Comprehensive Prefreshman Summer Program Model," Research and Teaching in Developmental Education 8, no. 2 (1992): 17.

[4]Ibid., 6.

African-American. Significant academic deficits, along with limited or under-financed economic resources, have seriously impacted many members of this group. This has debilitated this group so severely that there is a need for specially designed developmental programs in response to this high risk population.

The purpose of college preparatory and developmental studies programs was to eliminate academic deficiencies that diminish a student's potential to succeed in college level courses. A specific purpose has been to assist the student in developing skills that would ensure success on entrance or proficiency exams or in meeting other admissions criteria.[5]

One writer indicates that these programs have been offered as alternatives to students who would have been denied admission to institutions of higher education by regular standards. With the advent of the open-door policy, which is almost universally accepted, has come a need to serve new types of students and a more diverse student population with even more diverse needs.[6]

This paradigm shift to a liberal policy has, in turn, created drastic increases in the number of African-

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[5]L. M. Tomlinson, Postsecondary Developmental Programs: A Traditional Agenda With New Imperatives (Washington, D.C.: Association for the Study of Higher Education, 1989), Dialog, ERIC, ED 316076.

[6]Ibid., 7.

American and other students, with low socio-economic status, who are pursuing their fundamental rights to post secondary education. Also, these paradigm shifts in the African-American student population have stimulated increases in the number of educationally disadvantaged and under-prepared students who seek enrollment in institutions of higher education.[7]

It has been predicted that there will be a significant increase in the number of adults entering college. Also, it has been reported that demographic factors, such as the influences of social change and technological changes, will have resulted in a mixed population of students on the campus. Some of these students show marked deficits in college preparedness. The increase in adults seeking higher education embraces the perception that education continues to be valued throughout the life-span.[8]

Competition in the work force has increased interest in continuing education. This trend is particularly significant to African-American students. It has been as Tomlinson predicted that this population, in the age range of 15 to 29 years, will decrease by the year 2000. Simultaneously, the unemployment rate for young African-

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[7]K. P. Cross, Adults as Learners (San Francisco: Jossey-Bass, 1986), 2.

[8]Ibid., 14.

American group members and the educationally disadvantaged is predicted to increase drastically.[9]

It has been reported that increases can be predicted for the overall population of unprepared students in the near future. The increases in African-American populations will be dramatic and profound thus, impacting those institutions that accept and accommodate them.[10]

A recent report to the Southern Regional Education Board suggests that, in the fifteen Southeastern member states, the number of students who are not ready or properly prepared for college is consistent with other states and national studies. These reports confirm the notion that thirty-six percent (36%) or close to four out of ten first-time entering college freshmen will need additional academic support in reading, writing or mathematics.[11]

In order to properly serve this population, members must be clearly identified and studied. Consequently, it was necessary to define and detail some of the most commonly used identification characteristics of those students whom we have been referring to as under-prepared, high-risk, and generally not ready for college.

Tomlinson referred to the under-prepared student as,

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[9]Tomlinson, Post Secondary Developmental Programs: A Traditional Agenda with New Imperatives.

[10]Ibid., 14.

[11]Ibid., 15.

> one who may have the basic intellectual capacity but who has reached a point of impasse temporarily created by a mismatch between his or her knowledge base and the new information that he or she is expected to absorb on an independent basis.[12]

In a study conducted at the College of Staten Island (CUNY), a student was classified as high-risk based on a lack of a college preparatory high school program, an overall high school grade average of "C" or less with poor grades in English and mathematics, Comparative Guidance and Placement Test (CGP) scores at the twenty-fifth percentile or below, and a CGP academic motivation score below the fiftieth percentile.[13] In this same study, Dalton Junior College, in Georgia, identified its remedial students as those with scores of 330 or below on either section of the S.A.T. and who are required to take the Basic Skills Examination, a test designed and used by the University System of Georgia. Also, a student must score above the respective institutional cut-off score or the student is designated as a special studies student and assigned to the remedial learning program at the college.[14]

The concepts of "high-risk", "under-prepared", and "not ready for college" are not easily defined. Lack of a

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[12]Ibid., 20.

[13]A. Abraham, College Level Study: What is the Issue? (Atlanta: Southern Regional Education Board, 1986), Dialog, ERIC, ED 280275.

[14]Ibid., 22.

clear consensus, at this level, has resulted in many students being placed and classified prematurely.

Defining and identifying students, who are required to enroll in remediation courses, are complex issues. For African-American students, identification, classification, selection and other requirement procedures are crucial to their inclusion or exclusion from higher education. Often, the African-American student brings more debilitators to the open-door policy than the majority of their entering peers.

To university officials, nationwide, the retention of Black students in higher education is of paramount concern due to the dropping retention rate of Black students.[15] It is necessary to do more than merely recruit them. The ultimate goal must be to retain and graduate them. The graduates from this population will reflect true indicators of successful retention. The challenge for university personnel, then, is to reverse the trend of high attrition rates of African-Americans in higher education. In the past, support programs have been designed to meet the needs of high risk students who may not meet regular admissions requirements. Also, regularly admitted Black or African-American students need support services because they

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[15]W. L. Nelson, A Retention Program for Black Students at a Predominantly White Institution, Paper presented at the Minority Student Today Conference on "The African-American Student Today: Recruitment, Retention and Success," San Antonio, Texas, 9-11 October 1989, Dialog, ERIC, ED 331939.

tend to be at risk as a result of the impact of the campus milieu.[16]

Evolution of the Problem

It was generally believed, at a Northern Illinois University institution which studied the problem of retaining Black students on their campus, that regularly admitted Black students have the higher American Collegiate Testing Program (ACT) scores and they, naturally, could be expected to achieve academically better than their high-risk counterparts. The study revealed that, even for this population, academic ability was not enough to ensure academic success. Non-academic factors seemed to be just as important a measure of Black students' success probability as the academic indicators.[17] Consequently, programs specifically designed to meet specific needs of African-American students would have to assist them in adjusting to the demands of attaining a higher education.

Most program designs accepted to date have been enrichment programs usually conducted in the summer to assist any students who did not meet the regular admissions requirements. Enrichment programs have been given many names. Some are referred to as "Summer Prematriculation programs", some as "Summer Enrichment Programs", others are

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[16]Ibid., 11.

[17]Ibid., 11.

called "Academic-Enrichment programs." Whatever the title, the general purpose of all of these programs is to give the academic deficient student a head start before beginning his first year in college.[18]

Most enrichment programs have expressed, as their primary goal or function, the desire to help high-risk students make the transition to college life more easily and to help the student adjust to the college milieu that sponsors the program. However, minimal research has been done to determine the effectiveness of the primary indicators of the programs.

One of the primary indicators of high-risk students was low entrance examination or placement scores. The literature is abundant with data on whether placement examinations are the best indicators of an individual's readiness for college course work. Whichever side of the issue one is on, the placement testing is here and, in the foreseeable future, it will probably remain as one of higher education's most frequently and pervasively used tools for placement in that arena.

If this is true, then educators who are responsible for evaluating enrichment programs should question whether enrichment programs minimize or even eliminate the need for remediation. The determining factor in evaluating each

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[18]Nunez-Wormack, Astone, and Smodlaka, "Preparing Freshman for College: A Comprehensive Prefreshman Summer Program Model," 17.

program's effectiveness will have to be the way each program is organized, and the program's stated goals in relation to its mission.

Purpose of the Study

The purpose of this study was to determine the effectiveness of a select junior college's minority summer enrichment program success rates in exempting college students from freshman remediation. The selected program was specifically designed to help African-American students, on predominantly white college campuses, to adjust to both the academic standards and to the campus environment. The Collegiate Placement Examination (CPE) is required for admission to a University System of Georgia institution when a student's Scholastic Aptitude Test (SAT) scores are below the set minimum for admission. Unsuccessful students are required to take developmental studies courses in the areas of Mathematics, English or Reading. The minority summer enrichment program offers those students who participate the opportunity to exempt one or two or all of their developmental studies' requirements after successful participation in this program. The effectiveness of this enrichment program, in fulfilling its goals, was an important focus of this study.

Significance of the Problem

Since most of the enrichment program evaluations were centered on student matriculation issues, such as student campus interactions, student retention, student awareness of academic skills, personal and social responsibility, cultural diversity issues, and reinforcing of a positive self image, there were minimal empirical data to determine the success or failure of these types of programs. These areas were necessary and valid for inclusion in minority summer enrichment programs. However, such areas do not answer the question: Once the program was over, were program participants still in need of more remediation as determined by the institutions' entrance placement requirements? Also, it does not answer the question of how this type of program affects students when compared by their gender.

Limitations

The writer realizes the following limitations in carrying out this study:

1. The participants were limited to a selected group of students.
2. The information was restricted to students' test performance for specific years.
3. The findings may not be generalizable to other students.

Research Questions

The research questions, to be investigated in this study, are listed below:

1. Does the successful completion of a selected minority summer enrichment program significantly increase freshmen's scores on the CPE?

2. Are the pre-test scores significantly higher than post-test scores in English, Reading and Mathematics?

3. How do male pre- and post-test scores differ from the female pre- and post-test scores?

Definition of Terms

The significant terms, used in this investigation, had the following meaning:

Remedial programs: Those designed to assist in overcoming academic deficiencies.

Developmental studies program: Those programs involved in developing the diverse talents of students, whether academic or not.[19]

Remedial or developmental education: Education that refers to programs, courses, and activities designed specifically for first-time entering students who lack minimum proficiency in reading, writing, oral communication, mathematical, or study skills, and/or other basic skills

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[19]Ibid., 15.

necessary to do freshman-level college work as defined by the institutions.[20]

High-risk students: Students whose pre-admissions test scores in Mathematics, Reading, English, and Scholastic Aptitude Test (SAT) or American Collegiate Test (ACT) are below the institution's cut-off requirements for exemption from remediation or developmental studies program placement.

Minority: Demographic classification used to identify any Americans not legally classified as Caucasian. This classification may also include Caucasian females in some social and cultural demographics.

African-American: American-born citizens of African descendants not classified by social, cultural or ethnic origins as Caucasian.

Black American: Person or group of persons classified by themselves or others as being of African or African-American descent due to ethnic traits and factors, social, and cultural traits or factors which are clearly attributable to an African heritage.

African-American Summer Enrichment Programs: Programs offered at selected colleges and universities to assist African-American students in their adjustment to college in general and to specifically adjust to a predominantly white institution. Also, the program exists

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[20]A. Abraham, A Report on College-Level Remedial/ Developmental Programs in SREB States (Atlanta: Southern Regional Education Board, 1987), Dialog, ERIC, ED 280369.

to assist the institution in recruiting and retaining African-American students in the sponsoring institution while improving basic skills and eliminating or reducing the need for remediation during the freshman year.

Summer Pre-matriculation Program: A tuition-free comprehensive program offered during the summer to freshman students, whose primary objective is to improve basic skills and eliminate or reduce the need for remediation during the freshman year. At some institutions it is offered to a specific population while at others it is offered to all incoming students.

Subject Specific Academic Enrichment Program: A program designed to promote a target group's achievement and retention at an institution of higher education by providing participants with exposure and practice in a specific subject area or discipline prior to their fall enrollment at the sponsoring institution.

Collegiate Placement Examination (CPE): The University System of Georgia's official placement test used to exempt or place students, after admission in English, Reading or Mathematics remediation or used as one of the exit criteria upon completion of a remediation course in either area if placed during the admissions process.

American College Test (A.C.T.): A nationally standardized test used to assess the preparedness of high

school juniors and seniors to enroll in freshman college level courses.

Scholastic Aptitude Test (S.A.T.): A nationally standardized test used to assess the preparedness of high school juniors and seniors to enroll in freshman college level courses.

Developmental Studies Course: A course taught at a college or university for the purpose of remediation in a specific subject or communication skills area for which the student may receive institutional credit that may not apply toward graduation requirements.

Non-developmental Studies Course: A course taught at a college or university in which a student is required to complete the graduation requirement in a prescribed curriculum.

Exempt: A requirement which a student does not have to complete due to the passage of a test or documented evidence of competence in a subject or communication skills area required by a college or institution for the purpose of admission or placement.

Exit: The passing of a test or some other evaluation criteria sanctioned by a college or university to satisfy state, school, or institutional requirements prescribed as passing that requirement.

Hypotheses

The following hypotheses were tested in performing this study:

H_1: There will be no statistically significant difference between the summer enrichment program students' mean English pre- and post-test scores on the Collegiate Placement Examination.

H_2: There will be no statistically significant difference between the summer enrichment program students' mean Reading pre- and post-test scores on the Collegiate Placement Examination.

H_3: There will be no statistically significant difference between the summer enrichment program students' mean Mathematics pre- and post-test scores on the Collegiate Placement Examination.

H_4: There will be no statistically significance difference between the mean pre- and post-test scores of the male participants on the Collegiate Placement Examination.

H_5: There will be no statistically significant difference between the mean pre- and post-test scores of the female participants on the Collegiate Placement Examination.

CHAPTER TWO

REVIEW OF LITERATURE

Evolution of a Summer Prematriculation Program for African-American and Other Non-traditional Students

In this chapter, the writer will discuss entrance requirements, admissions policies and procedures of the Minority Summer Enrichment Program. Also, placement testing, as a factor of inclusion or exclusion to college admission and six summer enrichment programs, will be cited and discussed.

The factors which stimulated the inception and development of minority summer enrichment programs grew out of the now widespread adoption of open enrollment policies in all fifty states. These policies necessitated making provisions for students with various types of academic backgrounds. Most states created remedial studies programs to address the needs of those students least prepared. Institutions were not prepared for the diversity of needs of the unprepared students nor the number this group represented in their enrollments. Specific numbers vary as to how many students entering two year colleges are unprepared for college level work. Since 1960, community colleges were confronted with the problem of what to do for

or with 25-30 percent of their enrollment population who experienced difficulty with transfer level courses.[1]

Placement tests at Miami-Dade Community College indicated that 50 percent of all entering students were deficient in at least one skill.[2] At the 1981 convention of the American Association of Community and Junior Colleges, the focus was to document the level of success for low-income and high-risk students in retention programs. Fewer than six students were found. Special high-risk developmental programs were not individually evaluated. There is a need for more explicit data on the success of high-risk students that have participated in developmental programs.[3] Though a number of retention studies of high-risk students has been reported, very little empirical information has been provided.[4]

A national sample of 511 colleges and universities of the Higher Education General Information Survey Enrollment Reports indicated that 82 percent of the schools

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[1]Miller, Success Comparison of High-Risk Students in Two Year College Transfer Curricula.

[2]R. H. McCabe, "Now is the Time to Reform the American Community College," Community and Junior College Journal 51, no. 8 (1981): 6-10.

[3]Miller, Success Comparison of High-Risk Students in Two Year College Transfer Curricula.

[4]Ibid., 38.

had at least one remedial or developmental course.[5] According to one writer, some colleges are using a subject matter module which focuses on the cultural values of ethnic or racial groups served. The courses are taught by "ethnic" instructors and use ethnic tutors, advisors and counselors whenever possible. The programs using this module report that their overall retention rate increased in the second year from 59 percent in 1979-80 to 70 percent in 1980-81.[6]

More information is necessary if developmental programs are to help students with academic difficulties to become involved in the mainstream of our higher education process. It has been reported that an institution provided Black students of lower academic ability with a transition experience in the summer. The intent of this intervention was to develop academic and personal skills, thus providing the participants with a greater likelihood of successful progress in their academic work.[7]

The Freshman Summer and Transfer Summer Programs were designed to facilitate improvement of student retention, academic success, cultural and social awareness;

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[5]Tomlinson, Postsecondary Developmental Programs: A Traditional Agenda With New Imperatives.

[6]Ibid., 38.

[7]G. W. McLaughlin, L. Miles and R. L. Einsporn, Results of a Summer Developmental Program on African-American Students with Low Academic Skills, Paper presented at the Annual Conference of the Southern Association for Institutional Research, Little Rock, Arkansas, 24-26 October 1984, Dialog, ERIC, ED 258484.

and provide students with new academic skills; and cultural and social perspectives that can aid in their transition to university life.[8] A team of writers[9] stated that many colleges and universities, such as the University of California, Davis, Cornell University, New Jersey State College, and The State University of New York, offer special programs, for specific populations that provide instruction during the summer preceding the freshmen year. The pre-freshman summer program, at the College of Staten Island, has as its principal objective to improve retention and academic skills. Another institution reports that its program's primary target, i.e., group achievement and retention, is achieved by providing participating students with introductions to three basic science courses.[10]

One can review the literature and document the need for specially designed programs to assist high-risk students in their quest for a higher education. The documentation has shown that a greater effort is required to assure the

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[8]S. P. Ackerman and G. J. Byock, Evaluation of the 1988 Freshman Summer Program and Transfer Summer Program, Phase II, Report (Los Angeles: Office of the Provost University of California Los Angeles, 1989), Dialog, ERIC, ED 314425.

[9]Nunez-Wormack, Astone, and Smodlaka, "Preparing Freshman for College: A Comprehensive Prefreshman Summer Program Model," 17.

[10]A. Hesser and L. Lewis, "Evaluation of a Summer Prematriculation Program For Black and Other Nontraditional Students," Academic Medicine: Journal of the Association of American Medical Colleges 67, no. 4 (1992): 270-72.

recruitment, retention, and graduation of African-American students from colleges and universities.

It is necessary to do more than merely recruit these students. The more important goal should be to retain and graduate them. Therefore, there is a challenge for university personnel. It seems clear that the incorporation of summer programs, designed to help students adjust to college before their freshman year, is proving to be one of the most successful intervention models to assist high-risk African-American students to succeed on predominantly white campuses in particular and any college campus in general.[11]

Models for Summer Prematriculation Programs for Minority Students with Low Academic Skills

A summer program, designed to assist at-risk students, prior to their freshman year, is a growing and accepted intervention model. It seems appropriate to look at some of these models. The purpose is to see how varied the program criteria are, how inclusive or exclusive they are, and how they have been evaluated for their effectiveness.

In Virginia, a plan for equal opportunity in state-supported institutions of higher education was amended to establish the Virginia Student Transition Program. The Program was designed to facilitate the enrollment and

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[11]Nelson, A Retention Program for Black Students at a Predominantly White Institution.

retention of Black Virginia high school graduates at five state higher education institutions. State funds were provided to each institution to enroll a minimum of forty students in a six-week intensive program during the summer.[12]

The Georgia Board of Regents' Minority Summer Enrichment Programs are modeled on similar mandates and criteria as the Virginia program model. The Virginia Polytechnic Institute was the focus of the evaluation study discussed here although Virginia implemented four other programs at the same time.

The Program had four stated objectives: (1) to develop increased knowledge in English, mathematics, biology or chemistry, writing, reading and retention; (2) to develop skills in interpersonal interactions with peers, faculty, and administration; (3) to develop self-confidence and self-awareness; and (4) to gain knowledge of the complete university structure, its rules, regulations and policies.[13]

These objectives are consistent with most of the objectives of the programs reviewed. These programs were instituted by states which were seriously attempting to

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[12]McLaughlin, Miles, and Einsporn, Results of a Summer Developmental Program for African-American Students with Low Academic Skills.

[13]Ibid., 2-3.

address some of the problems associated with recruitment and retention of Black students in higher education.

The Virginia Tech Program evaluations revealed that, of the forty who participated in the program, the average quarter cumulative average from fall enrollment to spring completion was 1.80. The academic status of program participants was that thirty-three of the forty students completed spring quarter in good standing. Twenty-two of the twenty-nine students who were interested but not invited to participate were in good standing at the same time. The academic drop rate for the program participants was seven. These limited evaluations indicated that the model is a probable success but, as the researchers concluded, could use more in-depth study in a longer period of time for comparisons within their program as well as other programs.[14]

The Medical College of Georgia School of Medicine's Summer Prematriculation Program has the same general guidelines and objectives as those of the other Georgia Regent's sponsored programs, but its model is slightly different from the other institutions in that passing the Collegiate Placement Examination (CPE) and the acquiring or improving of other basic skills competencies are not its focus. The focus of the medical school's Program is to promote group achievement and retention by providing

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[14]Ibid., 38.

participating students with introductions to three basic science courses required early in the first year; to develop medical and learning skills; to promote academic and social interaction with classmates, faculty, key administrators; and to provide opportunities to become familiar with the campus and a college community.[15]

The admissions criteria for this program are slightly different in that most of Georgia's programs use low SAT and CPE scores as primary determinants for program participation. However, the Medical College's participation criteria are: Medical College Admission Test (MCAT) chemistry score of 7 or lower; African-American status; nonscience major; no biochemistry course work; and older-student status. These are not consistent with most programs nationwide.

At the Medical College of Georgia, a self-evaluation revealed that there was no statistically significant difference between the prematriculants and the non-prematriculants. The data included gender, race, undergraduate major, type of undergraduate college attended, course pass rates for each of the first three quarters in medical school, and rate differences for four of the five retention categories. The study cautions that the lack of statistical significance should be tempered with common

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[15]Hesser and Lewis, "Evaluation of a Summer Prematriculation Program For Black and Other Nontraditional Students," 270-72.

sense conclusions. Emphasis should be on strong reliance on favorable evaluations of program participants and the use of tighter control over key factors that may obscure findings in future evaluations.[16]

The University of California at Los Angeles' Freshman Summer Programs and Transfer Summer Program Models were consistent with those already discussed. Their stated goals are to increase the academic achievement, retention and graduation of underprepared, under represented and low-income students. The UCLA program included a more culturally diverse African-American cross-section in that it included Hispanic, Asian, Latin and Black students in its program.

The UCLA program evaluation was based on the analysis of a Student Program Evaluation Questionnaire. The students' evaluations showed the perception of value was divided clearly along ethnic and culturally significant lines. For each group questioned, all the students agreed that the program met its academic and non-academic goals. For all groups, the program's activities were deemed useful with some similar sub-categories. The clearest indication of the UCLA models' effectiveness may be the final

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[16]Ibid., 271.

recommendations which were based upon the students' responses.[17]

The University of Connecticut also presents a summer program designed to recruit and retain African-American students on predominantly white campuses. This program was a model of a collaborative plan in which a community-based college pairs itself with a university that desires to recruit students to a specific program of study, in this case, education. Consequently, students accepted into this program were recruited with the understanding that they would be expected to complete the degree program in education upon transfer to the university from the community college.

Connecticut's program participants came from two major groups, Black and Hispanic. Admissions criteria included an expressed commitment to professional studies in education. This program provided tuition, fees, room, and board for all academic semesters including summer. Also, students received a stipend for participation in summer programs. All students who were accepted participated in the precollegiate summer program prior to their first year. The program covered basic skills in developmental studies. Those needing continued skills assistance were mandated to receive assistance during the first academic year in the

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[17]Ackerman and Byock, Evaluation of the 1988 Freshman Summer Program and Transfer Summer Program, Phase II, Report.

Community College Learning Center. A mentor was assigned to assist and monitor all participants' progress. The mentoring program was considered a key component of the program.[18]

Xavier University sponsors the Xavier University Engineering Bridge Program jointly with The National Aeronautics and Space Administration (NASA). Students attended classes, labs, career information sessions, counseling and tutoring sessions during the summer. The mentoring and tutoring fostered between faculty and students during the summer continue during the regular academic year. This program is unique to the state of Louisiana.[19]

Results of Summer Developmental Programs on African-American Students With Low Academic Skills

Fearing's literature search on the effects of academic enrichment on the success rate of baccalaureate students, revealed that, in general, the American College Testing Program's (ACT) scores predicted success better for associate degree students than for baccalaureate students.

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[18]C. R. Calder, Jr., M. A. Doyle, and A. L. Carter, A University Community College Collaborative Plan to Recruit and Retain African-American Students for Professional Studies in Education, Paper presented at the Minority Student Today Conference on "The African-American Student Today: Recruitment, Retention and Success," San Antonio, Texas, 9-11 October 1989.

[19]W. E. Gill, African-American Student Support Programs: Scholarships, Fellowships, and Service (Washington, D.C.: Office of Educational Research and Improvement, 1992), ERIC, ED 347889.

The grade point average (GPA), in clinical nursing courses and the Mosley Assess Test, appeared to be the best predictors of success on (NCLEX-RN) the National Council licensure examination for registered nurses and proved to be the best predictors of success for baccalaureate students.[20]

There was a general notion that at-risk students should be identified early and given assistance, but the exact type of assistance and who the provider should be have not been determined. The University of California at Los Angeles' summer bridge program's self study suggests that summer bridge programs for underrepresented and low-income students can help facilitate their transition, adjustment to university or college life, and improve their academic performance and persistence rates.[21]

The College of Staten Island's prefreshman summer program's evaluation indicated significant advances for both native English and limited English proficient students in writing and mathematics, and reading for native English

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[20]A. Fearing, What Research Says About the Effect of Academic Enrichment on the Success Rate of Baccalaureate Students (Washington, D.C.: Office of Education Research and Improvement, 1992), Dialog, ERIC, ED 308738.

[21]S. P. Ackerman, "The Benefits of Summer Bridge Programs for Underrepresented and Low-Income Students," College and University 66, no. 4, (1991): 201-08.

students. Also, persistence rates of participating students were higher than for non-program students.[22]

Benefits of Summer Prematriculation Programs for African-American and Other Non-traditional Students

The research is inconclusive and limited, in most cases, to institutional program evaluations. Summer enrichment programs are beneficial to the institutions who sponsor them and the students who participate in them. Most programs that have been evaluated report similar benefits. Those benefits are positive facilitators of transition and adjustment to college life and sponsoring institutions, in particular; improved persistence rates in the freshman year; and adjustment and adaptation to university life, and the campus community.[23]

Placement Testing in Summer Enrichment Programs

The value of developmental education to higher education is undisputed. Placement testing and decision making are critical components of developmental education and its overall value. When placement testing and decision making are used appropriately in a counseling and advising

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[22]Nunez-Wormack, Astone, and Smodlaka, "Preparing Freshman for College a Comprehensive Prefreshman Summer Program Model," 16.

[23]Ackerman, "The Benefits of Summer Bridge Programs For Underrepresented and Low-Income Students," 201-08.

model, the likelihood of success for students, faculty, and the institution increases.[24]

The assumption underlying the use of academic admissions placement testing is that standardized testing programs for entry-level placement and exit examinations can be effectively used to assure that students who need remedial courses are adequately placed and that certain basic concepts have been learned before an associate degree is awarded. The purpose of placement testing is to select pathways for curriculum instruction in which students are most comfortable intellectually with respect to their academic level of preparedness. The purpose of exit tests has primarily been to assure the public that students leaving the sophomore level are competent in the basic skills of reading, writing, and arithmetic.[25]

It has been reported that standardized testing programs for entry-level placement and exit examination can be effective societal vehicles for assurance that certain basic concepts have been learned before an associate degree is awarded and for further assuring that students, who are

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[24]E. A. Morante, "Selecting Tests and Placing Students," Journal of Developmental Education 13, no. 2 (1989): 2-4.

[25]J. Losak, Mandated Entry-and Exit-Level Testing in the State of Florida: A Brief History, Review of Current Impact, and a Look to the Future, Paper presented at the California State University Conference on "Student Outcomes Assessment: A Tool For Improving Teaching and Learning in the California State University," Panama, California, 15-17 October 1986, 87-104.

in need of remedial efforts, receive the remedial courses. There was evidence that such testing programs convey a message of positive educational value to many constituencies in higher education including students, faculty, and lay citizens.[26]

The use of placement testing, as a part of the admissions process, is well established. The variety and diverse uses, on state by state, university-by-university, and college and technical schools bases are well documented. What is not so clear is the effectiveness of the use of placement testing as a screening tool for college admission and advancement. We have been cautioned that one of the real dangers of testing is to infer that all low-scoring students should be denied entrance. Still another caution reported is that a student's initial academic under-preparedness, entering an open door two-year college, does not predetermine that learning cannot occur.[27]

The universally accepted belief in, and adoption of, developmental programs in higher education indicates that placement and exit testing can be useful in those same developmental programs. Also, the adoption of special programs, to meet the more diverse needs of specific target populations, is becoming a universally accepted and adopted

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[26]Ibid., 3.

[27]Ibid., 5.

practice for including more diverse populations into higher education.

Among proponents of equal access and expanding opportunities in higher education, there are fewer issues that generate as much discussion as testing and assessment. The basis for much of this disagreement in the applications of testing is not difficult to understand if one considers the following:

1. Latino, Hispanic, African-American, and poor students are, substantially, under-represented in American higher education especially in the more select or elite institutions;
2. Universities and colleges rely heavily on two-measures: the high school grade point average and scores on standardized college admission tests, to select students and;
3. Latinos, Hispanics, African-Americans, and other poor students tend to receive lower high school grade point averages and lower test scores than other groups.[28]

The continuing reliance on selected measures by college and university admissions personnel will make it very difficult for any educationally underprepared group to be represented equally or proportionately in higher

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[28]A. W. Astin, Assessment for Excellence: The Philosophy and Practice of Assessment and Evaluation in Higher Education (New York: McMillan, 1991), 385.

education. Cooperation, strong motivation, positive attitude, economic and social well-being should be considered. A variety of institutional or environmental variables, such as financial aid, adequacy of counseling, library hours, and tutorial services, is often not reflected in test scores. When test results are used independently of other relevant information to classify individuals in ways that affect their opportunities, the process can lead to inequalities in several areas. Studies of the performance of these traditionally under-represented groups have shown that they perform more poorly on standardized tests than do the dominant cultures in the United States.[29] African-Americans, Latinos, Hispanic Americans, Native-Americans, Pacific-Islanders, Asian-Americans and other under-represented groups, including women, score lower than white men on the SAT and other college entrance tests.[30]

Summary

Given this preponderance of evidence, a study seemed to be needed to determine if skill gaps, created by cultural differences, social, economic, and educational differences and deprivation, are minimized or even eliminated by

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[29]Ibid., 12.

[30]B. Armstrong, R. Barnes, and G. Takahaia, Skills Testing and Disproportionate Impact: An Analysis of the Reading and Writing Test Performance of Students in the San Diego Community College District (San Diego: Office of the Provost San Diego Community College, 1991), Dialog, ERIC, ED 346938.

specially designed enrichment programs, conducted during the summer prior to enrollment. Also, responses can be made to critics who decry the use of more money, time and efforts spent on a situation which has been remedied by developmental studies programs.

An empirical study, conducted to determine if summer enrichment programs are effective tools to bridge the skill gaps associated with placement testing for African-American students, appears to be both appropriate and necessary to justify their existence, continuance and expansion.

CHAPTER THREE

METHODOLOGY

Parametric and non-parametric analyses of sample distributions in a repeated measures design were used in this study. The initial measurements were made on June 26, 1991 and the final measurements on July 28, 1992. The research methods are detailed below.

Research Design

This research was designed to investigate the effects of the minority summer enrichment program on students' performance on the Collegiate Placement Examination (CPE). The main feature of the research design was a comparison between the CPE scores before and after students were enrolled in the summer enrichment program. The repeated measures version of student's t-test was used to statistically compare pre-and post-test scores on the Math, English, and Reading sections of the CPE. The alpha level was set to .05 where the null hypothesis would be rejected in error in only 5 percent of the cases at this level.

Setting

The setting selected for this study was Macon College, located in Macon, Georgia. This setting was chosen because the researcher could get the data needed to complete the study, the school was willing to cooperate with the researcher, and the locale was convenient. Macon College is

one of thirty-four public colleges and universities governed by the Board of Regents of the University System of Georgia. Located ninety miles south of Atlanta and ten miles West of downtown Macon, the one hundred sixty-seven acre campus serves a metropolitan population of more than two-hundred fifty thousand.

Subject Pool

The subjects, available to this researcher, were students who participated in the Macon College Summer Enrichment Program in the summers of 1990, 1991, and 1992.

Sample

The sample was the entire group of twenty-six undergraduate students enrolled in the 1991 enrichment program.

Instruments

The instrument, used for this study, was the Georgia Collegiate Placement Examination. The Collegiate Placement Examination consisted of a mathematic, reading and English portion. Each portion contained a forty-item, multiple-choice questions designed to evaluate mathematical, reading and English skills of students' where high school transcripts and the Scholastic Aptitude Tests (SAT) indicate possible deficiencies. The objectives of the test are:

1. to assess the level of competency in mathematics, reading and English for beginning college students;
2. to provide standards and uniform testing instruments to be used systemwide;
3. to assist in placing students in remedial mathematical, reading and English classes;
4. to assist in determining when a student is ready for college level course work (placement and exit examinations).

Procedure

There were three study periods for this research. They include the pre-research, research period and the post-research period. The three procedures are listed below in chronological order.

Pre-Research Period

Procedure I

Through the cooperation of colleagues and the department chairperson of developmental studies, permission was obtained to conduct this study.

Procedure II

The subjects were identified for the research as participants in the 1990, 1991, 1992 Macon College Minority Summer Enrichment Program.

Procedure III

A study was conducted to compare the effects of the minority summer enrichment program on the placement and exit scores of African-American program participants at Macon College. The students were given a college pre-test placement examination and another form of the same test as a post-test. Those scoring less than 75% were required to take a developmental studies class in mathematics, reading and English.

Research Period

Procedure IV

The subjects were identified as participants in a five-week program designed to strengthen their skills in mathematics, reading and English during the summer of 1991.

Procedure V

Statistical analyses were conducted on the pre- and post- tests. Gender analyses were made between students' scores on pre- and post-tests.

Post-Research Period

Procedure VI

All data were collected and converted to electronic format to determine whether the beginning placement test scores of the program participants were significantly different from their ending placement test scores as measured on the Collegiate Placement Examination (CPE). The

electronically collected data were analyzed, graphically depicted and described.

Data Collection

All data were collected by the researcher. The collected data were organized and collated for statistical analysis.

Type of Analyses

Procedure VII

All data were analyzed initially by computer using statistical programs that are available in current statistical packages.

T-test: The repeated measures form of the student's t-test were used to compare the mean score before the summer enrichment program with the mean score after the summer enrichment program. The mean score was the post-score minus the pre- score for each subject with the null hypothesis set to expect a mean of a zero difference among the 26 subjects (two tailed test).

Human Subjects' Contract

No human services contract was needed. Direct contacts were not provided for the sample.

CHAPTER FOUR

PRESENTATIONS, ANALYSES, AND INTERPRETATIONS OF FINDINGS

The purpose of this chapter is to present, analyze, and interpret the findings of this study. The reader must keep the purpose of this study in mind to give meaning to the findings presented in this chapter. The general purpose for making this study was to determine the effectiveness of a select junior college's Minority Summer Enrichment Program success rates in exempting college students from freshman remediation.

They sought information useful in answering the following questions:

1. Does the successful completion of a selected minority enrichment program increase the freshman scores on the College Placement Examination?

Generally speaking, the findings of this study seem to indicate an affirmative answer to this question. Perhaps, with continued usage of this program, more data can be collected and a more precise answer can be provided.

2. Are the pre-test scores significantly higher than the post-test scores in English, Reading, and Mathematics?

The findings show no statistically significant difference between the pre-and post-test scores in mathematics. However, statistically significant findings

were found between pre-and post-test scores in English and Reading. This means that a negative answer to question #2 is given for Mathematics. However, a positive answer is given for English and Reading.

3. How do male pre- and post-test scores differ from female pre- and post-test scores in English, Reading, and Mathematics?

No statistically significant differences were found between the mean female and male pre-test scores in English, Reading, and Mathematics. Therefore, the female students' scores did not differ statistically significantly from the mean male students' scores in the same subjects.

Hypotheses

The following hypotheses were tested in implementing this study:

H_1: There will be no statistically significant difference between the students' mean English pre- and post-test scores on the Collegiate Placement Examination.

A statistically significant difference of -2.2170 was found between the mean pre- and post-test scores in English. Therefore, the first hypothesis was rejected at the .05 level of significance.

H_2: There will be no statistically significant difference between the students' mean Reading

pre- and post-test scores and the Collegiate Placement Examination.

A difference of -2.3879 was found between the mean pre- and post-test scores in Reading for the two groups. This difference was statistically significantly different at the .05 level of significance. This difference favored the post-test. This hypothesis was rejected.

H_3: There will be no statistically significant difference between the students' mean mathematics pre- and post-test scores on the Collegiate Placement Examination.

A difference of -1.2828 was found between the mean mathematics pre- and post-test scores. This difference favored the post-test, but it was not statistically significant. This hypothesis was not rejected.

H_4: There will be no statistically significant difference between the mean pre- and post-test scores of the male participants on the Collegiate Placement Examination.

A difference of -2.1 was found between the male subjects' pre- post-test mathematics test scores. This difference was not statistically significant, but it favored the post-test.

A difference of -1.4 was found between the mean pre- and post-test English score. This difference was not significant statistically.

A difference of -3.6 was found between the male subjects' reading scores. It favored the post-test scores, but it was not statistically significant.

The findings favored the post-test scores in each testing area. None of them were statistically significant. Therefore, the fourth null hypothesis was not rejected.

The fifth null hypothesis stated there will be no statistically significant difference between the mean pre- and post-test scores of the female subjects on the Collegiate Placement Examination.

A difference of -3.5625 was found between the pre- and post-test scores in mathematics for the female subjects. This difference was not statistically significant.

A difference of -3.3750 was found between the female subjects' English pre- and post-test scores. This difference was not statistically significant.

A difference of -4.25 was found between the female subjects' reading test pre- and

post-test scores. It was not statistically significant.

No statistically significant differences were found between the female subjects' pre- and post-test scores in any of the three areas on the Collegiate Placement Examination. Therefore, the fifth null hypothesis was not rejected.

Table 1 contains information about the participants' performance in mathematics.

TABLE 1

STATISTICAL ANALYSIS OF PARTICIPANTS' MATHEMATICS SCORES

	GROUPS		
Statistics	**Pre-Test (N = 26)**	**Post-Test (N = 26)**	
Means	75.1923	78.1923	
Standard Deviations	5.5437	5.2661	
$S.E._{M}$	1.1088	1.0532	
DIFF.			-3.000
$S.E._{DM}$			2.3387
t			-1.2828

The mean Mathematics scores differed by -3.000. this difference favored the post-test scores.

Table 2 contains information about the participants' performance in English.

TABLE 2

STATISTICAL ANALYSIS OF PARTICIPANTS' ENGLISH TEST SCORES

	GROUPS		
Statistics	**Pre-Test (N = 26)**	**Post-Test (N = 26)**	
Means	72.1923	75.4231	
Standard Deviations	5.3495	4.9472	
$S.E._{M}$	1.0698	.9894	
DIFF.			-3.2308
$S.E._{DM}$			1.4573
t			-2.2170*

*$p < .05$.

The mean Mathematics scores differed by -3.2308. This difference favored the post-test score.

Table 3 contains information about participants' performance in Reading.

TABLE 3

STATISTICAL ANALYSIS OF PARTICIPANTS' READING TEST SCORES

	GROUPS		
Statistics	Pre-Test (N = 26)	Post-Test (N = 26)	
Means	72.1923	76.1923	
Standard Deviations	6.6623	5.0765	
$S.E._{M}$	1.3324	1.0152	
DIFF.			-4.000
$S.E._{DM}$			1.6751
t			-2.3879*

*$p < .05$

The mean Reading scores differed by -4.000. This difference favored the post-test score.

Table 4 contains information about gender difference in English pre-test scores.

TABLE 4

GENDER DIFFERENCE BETWEEN PRE-TEST ENGLISH TEST SCORES

	GROUPS		
Statistics	Female Pre-Test (N = 16)	Male Post-Test (N = 10)	
Means	72.0000	72.5	
Standard Deviations	3.1820	4.6957	
$S.E._M$	.8216	1.5652	
DIFF.			-.5
$S.E._{DM}$			1.7678
t			-.2828

The information in Table 4 shows a very small difference between the mean pre-test of the female group in English and the mean pre-test of the male group in English.

Table 5 contains information about gender difference in post-test English scores.

TABLE 5

GENDER DIFFERENCE BETWEEN POST-TEST ENGLISH TEST SCORES

	GROUPS		
Statistics	Female Pre-Test (N = 16)	Male Post-Test (N = 10)	
Means	75.3750	75.5	
Standard Deviations	5.3254	4.3070	
$S.E._{M}$	1.3750	1.4357	
DIFF.			-.1250
$S.E._{DM}$			1.9879
t			-.0629

The mean scores were very similar for the female and male groups on the post-test in English.

Table 6 contains information about gender difference between pre-test math scores.

TABLE 6

GENDER DIFFERENCE BETWEEN PRE-TEST MATH TEST SCORES

	GROUPS		
Statistics	Female Pre-Test (N = 16)	Male Post-Test (N = 10)	
Means	74.8750	75.7	
Standard Deviations	4.9734	6.6038	
$S.E._{M}$	1.2841	2.2013	
DIFF.			-.8250
$S.E._{DM}$			2.5484
t			-.3237

The difference between the mean pre-test math scores for the female and male groups was very small. This difference favored the males.

Table 7 contains information about gender difference between post-test math test scores.

TABLE 7

GENDER DIFFERENCE BETWEEN POST-TEST MATH TEST SCORES

	GROUPS		
Statistics	Female Pre-Test (N = 16)	Male Post-Test (N = 10)	
Means	78.4375	77.8000	
Standard Deviations	4.2422	6.7646	
$S.E._{M}$	1.0953	2.2549	
DIFF.			.6375
$S.E._{DM}$			2.5068
t			.2543

The difference between the mean post-test math test scores was very small. It favored the female group.

Table 8 contains information about gender difference between pre-test reading test scores.

TABLE 8

GENDER DIFFERENCE BETWEEN PRE-TEST READING TEST SCORES

	GROUPS		
Statistics	Female Pre-Test (N = 16)	Male Post-Test (N = 10)	
Means	71.4375	73.4000	
Standard Deviations	7.3397	5.1807	
$S.E._{M}$	1.8951	1.7269	
DIFF.			-1.9621
$S.E._{DM}$			2.5639
t			-.7654

The mean pre-test reading score, for males, was slightly larger than the mean pre-test for the females.

Table 9 contains information about gender difference in post-test reading test scores.

TABLE 9

GENDER DIFFERENCE BETWEEN POST-TEST READING TEST SCORES

	GROUPS		
Statistics	Female Pre-Test (N = 16)	Male Post-Test (N = 10)	
Means	75.6875	77.000	
Standard Deviations	4.4822	5.8139	
$S.E._{M}$	1.1573	1.9379	
DIFF.			-1.3125
$S.E._{DM}$			2.2572
t			-.5815

The mean post-test scores were very similar. However, the mean post-test favored the male group.

TABLE 10

SUMMARY OF FINDINGS

ITEM	PRE-TEST (N = 26)	POST-TEST (N = 26)	DIFF	t
Mathematics	75.1923	78.1923	-3.000	-1.2828
English	72.1923	75.4231	-3.2308	-2.2170*
Reading	72.1923	76.1923	-4.0000	-2.3879*

*$p < .05$

There are two significant characteristics of the data in Table 10. First, the mean scores were consistently higher for the male group. Secondly, the statistically significant differences were found between the mean scores of the two groups in English and math.

Table 11 contains information regarding the male subjects' performance on the math test.

TABLE 11

STATISTICAL ANALYSIS OF MALE SUBJECTS' MATHEMATICS SCORES

	GROUPS	
Statistics	**Pre-Test (N = 16)**	**Post-Test (N = 10)**
Means	75.7	77.8
Standard Deviations	6.6038	6.7646
$S.E._{M}$	2.0213	2.2549
DIFF.		-2.1
$S.E._{DM}$		3.0282
t		-.6935

A difference of -2.1 was found between the mean pre- and post-test math test scores for the male subjects. This difference was not statistically significant.

Table 12 contains information about the subjects' English test scores.

TABLE 12

STATISTICAL ANALYSIS FOR MALE SUBJECTS' ENGLISH SCORES

	GROUPS		
Statistics	**Pre-Test (N = 16)**	**Post-Test (N = 10)**	
Means	73.5	74.9	
Standard Deviations	6.0042	3.8588	
$S.E._{M}$	2.0014	1.2863	
DIFF.			-1.4
$S.E._{DM}$			2.3791
t			-.5885

The difference between the mean pre- and post-test English scores was -1.4 in favor of the post-test, but it was not statistically significant.

Table 13 contains information about the subjects' test scores in Reading.

TABLE 13

GENDER DIFFERENCE BETWEEN POST-TEST READING TEST SCORES

	GROUPS		
Statistics	Pre-Test (N = 16)	Post-Test (N = 10)	
Means	73.4000	77.0	
Standard Deviations	5.1807	5.8138	
$S.E._{M}$	1.7269	1.9379	
DIFF.			-3.6
$S.E._{DM}$			2.2957
t			-1.3869

A difference of -3.6 was found between the mean pre- and post-test scores in Reading. It favored the post-test scores, but it was not statistically significant.

Table 14 contains information about the female subjects' mathematical test scores.

TABLE 14

STATISTICAL ANALYSIS OF FEMALE SUBJECTS' MATHEMATICS SCORES

	GROUPS		
Statistics	Pre-Test (N = 16)	Post-Test (N = 16)	
Means	74.8750	78.4375	
Standard Deviations	4.9734	4.9240	
$S.E._M$	1.2841	1.2740	
DIFF.			-3.5625
$S.E._{DM}$			1.8071
t			-1.9714

A difference of -3.5625 was found between the pre- and post-test mathematics test scores of the female subjects. It was not statistically significant.

Table 15 contains information about the female subjects' performance in English.

TABLE 15

STATISTICAL ANALYSIS OF FEMALE SUBJECTS' ENGLISH SCORES

	GROUPS		
Statistics	Pre-Test (N = 16)	Post-Test (N = 16)	
Means	72.0	75.375	
Standard Deviations	5.7118	5.3254	
$S.E._{M}$	1.4748	1.3750	
DIFF.			-3.3750
$S.E._{DM}$			1.9445
t			-1.7357

A difference of -3.370 was found between the mean pre- and post-test of the female subjects. It was not statistically significant.

Table 16 contains information about the female subjects' performance in reading.

TABLE 16

STATISTICAL ANALYSIS OF FEMALE SUBJECTS' READING SCORES

	GROUPS		
Statistics	**Pre-Test (N = 16)**	**Post-Test (N = 16)**	
Means	71.4375	75.6875	
Standard Deviations	7.3397	4.4822	
$S.E._{M}$	1.8951	1.1573	
DIFF.			-4.25
$S.E._{DM}$			2.22205
t			-1.9140

A difference of -4.25 was found between the female subjects' Reading pre- and post-test scores. This difference was not statistically significant.

Table 17 contains a summary of information about the male subjects' test scores on the Collegiate Placement Examination.

TABLE 17

STATISTICAL FINDINGS FOR MALE SUBJECTS

MEAN TEST SCORES (N = 10)				
ITEM	PRE-TEST	POST-TEST	DIFF	t
Math Test Scores	75.7	77.8	-2.1	-.6935
English Test Scores	73.5	74.9	-1.4	-.5885
Reading Test Scores	73.4	77.0	-3.6	-1.3869

The post-test scores were consistently higher for the male subjects, in all of the three areas. However, none of them was statistically significant.

Table 18 contains summary information about the female subjects' test scores on the Collegiate Placement Exam.

TABLE 18

STATISTICAL FINDINGS FOR FEMALE SUBJECTS

MEAN TEST SCORES (N = 10)				
ITEM	PRE-TEST	POST-TEST	DIFF	t
Math Test Scores	74.8750	78.4375	-3.5625	-1.9714
English Test Scores	72.0	75.3750	-3.3750	-1.7357
Reading Test Scores	71.4375	75.6875	-4.25	-1.9140

The test scores were consistently higher on the post-test, in all three areas, for the female subjects. However, none of them was statistically significantly different.

TABLE 19

SUMMARY OF FINDINGS ACCORDING TO GENDER

	GROUP			
	FEMALE (N = 16)	MALE (N = 10)	DIFF	t
ITEM	MEAN	MEAN		
English Pre-Test	72.0000	72.5	-.5000	-.2828
English Post-Test	75.3750	75.5	-.1250	-.0629
Math Pre-Test	76.8750	75.7	-.8250	-.3237
Math Post-Test	78.4375	77.8	.6375	.2543
Reading Pre-Test	71.4375	73.4	-1.9625	-.7654
Reading Post-Test	75.6875	77.0	-1.3125	-.5815

There are two salient features of the data in Table 19. First, the mean scores were higher for the males in all areas except the post-test in math. Secondly, none of these differences were statistically significant.

CHAPTER FIVE

FINDINGS, DISCUSSION, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Findings

A careful and thorough analysis of the information obtained from this study produced the following findings:

1. The mean pre- and post-test scores were statistically significantly different in English. The t-test value was -2.2170.
2. The mean pre- and post-test scores were statistically significantly different in Reading. The t-test value was -2.3879. The null hypothesis was rejected in each case, involving English and Reading, at the .05 level of confidence.
3. The post-test mean scores were higher in all comparisons, except the female post-test and the male post-test scores in math. This difference was .6375 in favor of the female subjects.
4. The post-test mean scores were higher than the pre-test scores for all comparisons.
5. The male subjects' performance was slightly better than those of the females in all areas.

Discussion

The pre- and post-test scores in English were found to be statistically different; therefore, the null hypothesis was rejected at the .05 level. The pre- and post-test scores in reading were also found to be significant at the .05 level of significance. Since both the English and reading pre- and post-test scores for all students included in the study were significant, and the null hypothesis was rejected, the Macon College Minority Summer Enrichment Program which was the focus of this study is effective in exempting students from remedial English and reading.

The pre- and post-test scores in mathematics were not found to be statistically significant, and the hypothesis was rejected. This was an interesting result. Although this is not the first time this program has been statistically evaluated, it has been numerically compared. These numerical comparisons have always reflected larger gains in the area of mathematics than in English or reading. This study did not reveal any reasons why there was no statistical difference in the mathematics scores of the student participants. There may be some plausible reasons for the statistical differences in the reading and English scores of the students. None are statistically verifiable.

The curriculum in the program has included a computer laboratory experience which was designed to

reinforce the grammar and composition instruction in the program. The reading component of the program may have benefitted from this reinforcement as well, since English, reading, and composition are all verbal skills which are intricately linked. No reinforcement of any kind was included for the mathematics instruction.

The post-test scores of the male students in mathematics, English and reading were not statistically significant. However, the post-test scores did positively favor the differences between the pre- and post-test scores in English and reading and mathematics. Consequently, on that basis the hypothesis was rejected. The results were not the same for the female students as no statistically significant differences were found, nor were any of the post-test scores favored in English, reading, or mathematics for the female participant.

Since the purpose of the program was to exempt the students from remediation and the post-test scores are the criteria for determining if a student will be required to take remedial courses, then the program is not very successful in exempting males or females from remediation overall.

No statistically significant differences were found between the pre- and post-test scores for the female students in the areas of mathematics, English, or reading. Therefore, the hypothesis was rejected.

The program is successful in exempting most of the students from remediation in the areas of English and reading probably because of the reinforcement of computer laboratory time associated with the grammar and composition instruction. Perhaps the inclusion of a laboratory experience in association with the mathematics instruction could improve the mathematics scores hence the exemption rates significantly.

Even though the statistical data does not show that the program is totally effective in exempting all the students from freshman remediation, it does show that it is effective in helping students make dramatic gains whose scores were well below the minimum passing rate in each of the three areas pre- and post-tested.

There are other purposes for which this program was designed besides the exemption of remedial freshman basic skills courses. The program's other benefits are the students exposure to the campus environment, and meeting professors and staff before fall enrollment. These benefits are less easily evaluated than test scores, but they are none the less important to the overall purpose of these programs and the benefits to both the students and the institution.

Benefits to higher education in developing programs like the Minority Summer Enrichment Program are the freedom from the usual structural restraints of regular college

classes, the opportunity to experiment with the design and materials used in the program, the opportunity to intensify time periods, and to utilize different learning theories, as well as, design new areas.

These kinds of programs are effective in remediation according to all those whose programs have been evaluated in a similar manner. They also provide colleges and universities with a model to examine, to better understand what students need to be successful in college. These factors appear as the most commonly referred to benefits and justification criteria for the existence of this and all prefreshman programs.

Conclusions

The findings obtained from a careful and thorough analysis of the data derived from this study seem to warrant the following conclusions:

1. The subjects' performance levels were higher, in English and Reading, on the post-tests of the Collegiate Placement Examination.
2. There was a consistent, but small, improvement of all subjects' performance on the post-test of the Collegiate Placement Examination.
3. Male subjects' performance was consistently slightly better than that of female subjects on the Collegiate Placement Examination.

It seems that the experiences provided by The Minority Summer Enrichment Program had positive effects on the participants' performance in English, Reading, and Mathematics on the Collegiate Placement Examination.

Implications

The following implications seem to be inherent in the conclusions drawn from the findings obtained from this study:

1. The experiences, obtained by the participants, may have broader effects in helping students improve their intellectual and academic development.
2. Male subjects seem to have been affected more positively than the female subjects. There were more females involved. Their group may have been more diverse than the male group.

Recommendations

The implications, inherent in the conclusions of this study, seem to warrant the following recommendations:

1. That more carefully designed studies be made to explore the effectiveness of this experience on students' academic development.
2. That tighter control be exercised over the methods used in exposing the students to the

variables utilized so a more valid and reliable assessment can be made of the effects of such experiences.

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